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PRICES IN MOZAMBICAN AGRICULTURE*

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Abstract: This article is concerned with the effectiveness and impact of agricultural price policy in Mozambique since Independence in 1975. Existing information on price-setting and inflation is up-dated and reviewed, and the implications of a recently compiled aggregate consumer price index are investigated. External pressure and increasing internal difficulties have induced a re-orientation of economic policies with price and market liberalization in focus. The scope for increasing agricultural production through price reform alone is limited, but Government intervention in agricultural markets in Mozambique could nevertheless be improved. Different types of interventions undertaken and proposed are therefore considered before the article is concluded.

1. INTRODUCTION

Agricultural price policy in Sub-Saharan Africa (SSA) has been an area for intensive debate since the publication of the 'Berg Report' (World Bank, 1981) in which insufficiencies in domestic economic policies were identified as the fundamental cause of the deepening agricultural crisis in SSA and 'getting prices right' was put forward as the key answer to troubled policy-makers. Mkandawire (1983) classified Berg's suggestions as a 'package of delicately prepared proposals to facilitate capitalist penetration in the African economies and in particular in the agricultural sector'. Others broadly agreed with the World Bank view that 'negligence of the incentive framework is the

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single most important reason why marketed agricultural production has declined' (Nordic Countries, 1984). Yet others felt that 'getting prices right' matter, but it is difficult to discover what the right prices are, and non-price measures are necessary to make price policies effective. The more extreme positions in this debate have been modified in recent years, but disagreement endures on a series of basic theoretical and pratical issues.[1] Nevertheless, price reforms have been a key component in the wide ranging economic reforms which African countries initiated during the 1980s.

Mozambique is no exception to the above general picture. In the midst of war and economic collapse Mozambique joined the IMF and the World Bank in 1984, and after a couple of years of getting acquainted with each other, a stabilization and structural adjustment programme was elaborated by the Government with the assistance of the Bretton Woods institutions. This socalled Economic Rehabilitation Programme (ERP) originally approved for the 1987-90 period identifies the socio-economic destabilization mounted by the Republic of South Africa as well as other exogenous factors as the fundamental reasons for the present crisis of Mozambique. But 'there are also other causes of an internal nature which, although they are not determining, become important when they are combined with external causes. We are referring to the problems of organizing the management of the economy' (Prime Minister Mário Machungo, January 1987). Inadequate price policy was identified as one of these problems and came into focus in the reform process initiated.[2]

Existing information in published as well as unpublished sources on agricultural prices in Mozambique and their wider socio-economic impact is scattered.[3] Time periods as well as crop and geographical coverage differ. Conclusions drawn are tentative and at times contradictory. The objective of this article is to up-date this material and provide new insights into the general framework for price setting and inflation in Mozambique since Independence. Existing data covering the period 1975-88 are reviewed and the implications of a newly compiled aggregate consumer price index are investigated. The effectiveness and impact of agricultural price policy is assessed and the various interventions proposed and undertaken in the Mozambican markets are discussed. The paper is presented with the usual proviso that it does not for obvious reasons of space pretend to cover all aspects at the same level of detail.

2. General Framework and Evolution of Agricultural Price Policy

Government intervention in agricultural pricing and marketing was well established in pre-Independence Mozambique. The then colonial Portuguese

Government set producer and consumer prices as well as marketing margins for an exhaustive list of products at the various stages of the production and marketing chain. Producer prices were differentiated according to origin (by region) and quality, and profit margins varied by groups of products and marketing agents.[4] The commercial network was in the hands of the private sector. Smaller private traders ('cantineiros'), mainly of Portuguese or Asian origin, took care of the procurement of food and oil crops at retailer level whereas export crops were mainly handled by the companies or associations which grew them. A state marketing board for cereals was created in the 1960s which acted as wholesaler and operated a network of warehouses.

With Independence in 1975 the existing marketing system broke down as most of the Portuguese 'cantineiros' left the country and the Asian traders gave up their previous activities and moved to urban areas. Also the marketing system for export crops was heavily affected. The rationale for Government intervention in agricultural pricing and marketing changed as the new Constitution identified the establishment of the material and ideological basis for a socialist society as an overall goal. Subsequent actions were therefore conceived within the framework of a centrally planned economy. The more specific objective of avoiding large increases in consumer prices was given attention, but the use of prices as producer incentives was explicitly recognized in policy statements.

The Third Congress of the Frelimo Party in 1977 outlined the strategy and policies for a radical transformation in the socio-economic structure of the country. Focus was put on the role of the state in accumulation, production and marketing. Private trade was permitted in principle, but its activities were subjected to strict regulation. An ambitious 10-year development plan was launched, and the economy showed hopeful signs of recovery. A series of new institutions came into being, including *inter alia* the National Commission for Salaries and Prices and a new state marketing board, Agricom. Changes in nominal producer prices were introduced gradually, but by 1982 producer prices of 45 items, including the main agricultural crops for internal consumption and export, were fixed by central authorities.[5] Previous differentiation by region was given up in favour of uniform prices at national level, and quality differentials were only kept in the case of cotton. Prices were in the coming years changed only infrequently and at irregular intervals.

Relatively major changes in a range of nominal producer prices were undertaken in 1977 and again in the early 1980s, and the process of price setting and related analyses became gradually more comprehensive. Producer price proposals were elaborated by the Ministry of Agriculture and Agricom for presentation to the National Commission of Salaries and Prices headed by

the Minister of Finance. The main criterion used for the preparation of such proposals included costs of production and marketing. The National Commission took also account of the need for Government revenue and the interests of consumers in urban areas before prices were finally decided upon.

The Mozambican Government became from 1977 more and more involved in direct administrative allocation of resources in the economy. This tendency was reinforced as the war escalated from 1981-82 and resources became scarcer. The Fourth Congress of Frelimo held in 1983 reassessed previous policies and attention was drawn to the almost complete neglect of the small peasant farm sector in the allocation of basic inputs and investment resources. 'Giantism' of state farms, excessive centralization of decision making and the management system's rigidity were identified as main problems to be resolved. Planning had been based on a set of material balances leaving the system extremely vulnerable to sudden decreases in efficiency of resource use and increases in costs of production. Furthermore, little attention had been given to overall resource constraints and due mainly to large fiscal deficits and unconstrained bank financing of enterprise losses the money supply was rapidly expanding despite the shrinking output. Consequently, Frelimo called for a re-ordering or priorities and the preparation of an econmic action programme for the 1984-86 period.

Renewed emphasis was put on the importance of the peasant sector, private initiative was to be promoted in all sectors of the economy and reforms were instituted in labour legislation and in the regulation of foreign investment. Measures were taken to strengthen public finances. A new system for management of foreign currency was introduced, and responsibilty was for example delegated from the central state export company ENACOMO to some of the factories or processing companies for crops such as cotton, cashew and tea. The role of the private sector in marketing was promoted and nominal consumer and agricultural producer prices were raised significantly. Prices of some crops were liberalized and greater competence was delegated to provincial governments.[6] Producer incentives came more into focus as an issue and overall objective, exemplified partly through the increasing use of the rural terms of trade as a criterion in price setting, partly through preoccupation with the availability of consumer items.[7]

The measures taken could not reverse the negative economic trend from 1981 and the security situation worsened despite the signing of the Nkomati accord in 1984. The number of displaced and affected people increased rapidly as a consequence of the war, and extreme scarcity of foreign currency reduced Mozambique's ability to import raw materials, spare parts and equipment to stimulate production as well as maintain and rehabilitate infrastructure. By 1986 internal and external economic balances had become

close to impossible to manage and the majority of the small peasant sector was left in an extremely vulnerable position. Therefore, generalized shortages became endemic. Inflation reached unprecedented levels, parallel markets developed rapidly, the exchange rate became increasingly overvalued and crisis management became the order of the day with little attention to medium and longer term needs of the country. Government was losing effective control over the economy.[8]

The ERP was initiated in 1987 to counteract this disastrous economic situation. The programme is – despite of Mozambique's particular circumstances and the need to finance the war effort – fairly typical in objectives and design.[9] The overall strategy involves a reduction in centralized administrative controls and as one of the more prominent measures an increased use of indirect price and credit policies rather than direct administrative intervention in the allocative process. The stated objectives are to restore incentives to produce and market, reintegrate parallel and official markets and lay the foundation for future growth.[10]

The number of products subject to fixed pricing was reduced significantly from 45 at the beginning of the ERP to less than 20 by the end of 1988 and set prices were increased. In distribution the number of products subject to administrative allocation has been reduced from 43 to presently 11 representing a more extensive liberalization than originally foreseen. Increased competition in trading and distribution is promoted and producer prices are now announced and raised regularly in advance of the agricultural year. A minimum producer price system will be initiated in 1989 for some agricultural products and the use of international (border) prices to guide national price setting is under consideration.[11] However, the ERP does not foresee the introduction of new institutions per se, the food rationing system in the two major cities of Maputo and Beira remain in place and controlled prices continue to be set on a pan-territorial basis.

3. Past Price Trends and Their Effects

Information on eight crops with strategic importance for the small peasant sector is reviewed in this section. The products included are on the one side maize, rice, beans (type 1) and groundnut (which are all important food crops) and on the other side seed cotton (1st quality), cashew, copra and sunflower (which are all industrial crops with export potential).

It is useful to distinguish the above two groups of crops. Food crops are marketed at producer and consumer level in the same form (that is in grain or with very little processing). The difference between the consumer price (without subsidies) and the producer price consists of packaging, transport and storage costs as well as profits. Unofficial parallel markets (including

smuggling) can therefore easily develop for food crops as in fact they did in Mozambique in the period under study. Industrial crops are not marketed at producer and consumer levels in the same form. Physical processing is indispensable for the product to have use value and processing costs can be significant. Unofficial markets for industrial crops are therefore more unlikely and these crops are (with the possible exception of cashew) mainly sold through official channels in Mozambique.[12]

Nominal as well as real producer prices, i.e. nominal producer prices deflated by the recently published national consumer price index (CPI) are analysed. The CPI represents a weighted average of all consumer goods prices paid in official *and* parallel markets.[13] The construction of this new index is subject to difficulties and it must be used with due care in the economic environment of Mozambique.[14] Nevertheless, the CPI is the best available estimate of aggregate consumer prices *actually* paid by urban and rural people in Mozambique and provides insights which neither the procedure of comparing official terms of trade item by item referred to above (and in footnote 7) nor geographically more limited surveys (such as those in Mackintosh, 1988) can give.

As may be seen from Table 1 aggregate consumer prices increased very little during the first seven years after Independence. Annual price increases amounted to just around 1 per cent in this period, but from 1982 inflation escalated. From 1982 to 1986 consumer prices doubled for the country as a whole, with an annual average increase of more than 30 per cent. In 1987 inflation as measured by the CPI skyrocketed to 166 per cent following the first devaluations of the metical, but was kept at around 50 per cent in 1988 by tight monetary control.

Producer Price Trends

Nominal official producer prices for food as well as industrial crops remained stable at national level for very long periods (up to five years) after Independence. Irregular increases were generally introduced in large jumps and more frequently for food than for industrial crops (see Table 2). Major revisions were undertaken in 1977, 1980-82, 1985 and again in 1987-88 after the initiation of the ERP.

The stability in nominal prices did not, however, during the 1970s and early 1980s cause any significant drop in real prices due to the low inflation rate and real producer prices were in fact in 1981 and 1982 significantly above the 1976 level for *all* crops (see Table 3). While not in direct contradiction with the comment by Mackintosh (1988, p.21) that 'official terms of trade tended to turn against farmers in the late seventies and again in the early 1980s', this observation nevertheless has different implications.

Table 1.
CONSUMER PRICE INDEX (1975-1988)

Year	*1975*	*1976*	*1977*	*1978*	*1979*	*1980*	*1981*	*1982*	*1983*	*1984*	*1985*	*1986*	*1987*	*1988*
CPI Index	100	101	103	104	106	107	109	129	166	216	279	387[1]	1030	1545
Inflation	–	1	2	1	2	1	2	18	29	31	29	39	166	50

Source: DNE (1985) and (1988). Data on 1988 based on unpublished estimate by DNE.

Notes: 1 The original 1986 figure (see DNE, 1987) was later modified (see DNE, 1988).
2 Percentage annual change. Minor differences with sources due to rounding.

Table 2.
PRODUCER PRICES
(escudos, meticais/kg)

	Price	*1976*	*1977*	*1978*	*1979*	*1980*	*1981*	*1982*	*1983*	*1984*	*1985*	*1986*	*1987*	*1988*
Maize	nominal	2.50	3.20	3.20	3.20	4.00	4.00	6.00	6.00	6.00	13.00	13.00	40.00	65.00
	real	2.48	3.11	3.08	3.02	3.74	3.67	4.65	3.61	2.78	4.66	3.36	3.88	4.21
Beans	nominal	6.50	10.00	10.00	11.00	15.00	15.00	15.00	15.00	15.00	23.50	23.50	100.00	150.00
	real	6.44	9.71	9.62	10.38	14.02	13.76	11.63	9.04	6.94	8.42	6.07	9.71	9.71
Rice	nominal	5.00	6.20	6.20	6.20	6.20	6.20	10.00	10.00	10.00	16.00	16.00	48.00	75.00
	real	4.95	6.02	5.96	5.85	5.79	5.69	7.75	6.02	4.63	5.73	4.13	4.66	4.85
Groundnut	nominal	8.50	10.00	10.00	10.00	10.00	13.50	15.00	15.00	15.00	20.00	20.00	100.00	150.00
	real	8.42	9.71	9.62	9.43	9.35	12.39	11.63	9.04	6.94	7.17	5.17	9.71	9.71
Cashew	nominal	3.50	3.50	3.50	3.50	5.00	5.00	5.00	5.00	10.00	10.00	10.00	60.00	105.00
	real	3.47	3.40	3.37	3.30	4.67	4.59	3.88	3.01	4.63	3.58	2.58	5.83	6.80
Sunflower	nominal	7.00	8.50	8.50	8.50	8.50	8.50	10.50	10.50	10.50	15.00	15.00	50.00	75.00
	real	6.93	8.25	8.17	8.02	7.94	7.80	8.14	6.33	4.86	5.38	3.88	4.85	4.85
Cotton	nominal	6.50	6.50	6.50	6.50	11.00	11.00	11.00	12.50	12.50	16.00	16.00	65.00	104.00
	real	6.44	6.31	6.25	6.13	10.28	10.09	8.53	7.53	5.79	5.74	4.13	6.31	6.73
Copra	nominal	3.20	4.70	4.80	4.85	5.00	5.00	5.00	5.00	5.50	5.50	5.50	18.00	30.00
	real	3.17	4.56	4.62	4.58	4.67	4.59	3.88	3.01	2.55	1.97	1.42	1.75	1.94

Source: Agricom and Ministry of Agriculture.

Table 3.
REAL PRICE INDICES
(1976 = 100)

	1976	*1977*	*1978*	*1979*	*1980*	*1981*	*1982*	*1983*	*1984*	*1985*	*1986*	*1987*	*1988*
Maize	100	125	124	122	151	148	188	146	112	188	135	156	170
Beans	100	151	149	161	218	214	181	140	108	131	94	151	151
Rice	100	122	120	118	117	115	157	122	94	116	83	94	98
Groundnuts	100	115	114	112	111	147	138	107	82	85	61	115	115
Cashew	100	98	97	95	135	132	112	87	133	103	74	168	196
Sunflower	100	119	118	116	115	113	117	91	70	78	56	70	70
Cotton	100	98	97	95	160	157	132	117	90	89	64	98	105
Copra	100	144	146	144	147	145	122	95	80	62	45	55	61

Source: see Table 2.

After 1982 the overall picture became somewhat more complex. No price revisions were undertaken in 1983-84 (except for cashew in 1984) and real producer prices therefore dropped significantly due to the increasing inflation (i.e., increases in the CPI). The price revisions in 1985 did improve the situation somewhat, but by 1986 *all* real producer prices except for maize had dropped below the 1976 level. Real producer prices developed in favour of the peasant sector again from 1986 as a consequence of the ERP but only prices of maize and cashew were higher in 1988 than in the 1976-81 period. For all other crops 1988 prices were either roughly at or below the 1976-81 levels.

Real producer price trends were therefore not so consistently unfavourable to farmers in Mozambique after Independence as often assumed.[15] Positive developments also occurred and it is for example noticeable that the real price of maize remained well above the 1976 level for the *whole* 1977-88 period. Furthermore, the negative trend from 1983 to 1986 was more a consequence of management problems than of deliberate policy.[16]

Producer Prices and Agricultural Marketing

Before definite conclusions about the role of price policy in affecting agricultural production can be drawn evidence on the responsiveness of farmers to real producer price changes must be found.[17] Table 4 below sets out quantities marketed through official channels, and Table 5 indicates percentage changes in real producer prices and quantities marketed as well as estimated supply elasticities in three periods which emerge from the general review in section 2. The first period (1977-81) can broadly speaking be characterized as 'normal', i.e., the initial difficulties following the Frelimo takeover in 1975 had been overcome, and the two subsequent periods correspond with respectively the escalation of the war (1982-86) and the initiation of the ERP reform process (1986-88).

Table 4 shows why agricultural marketing has been a major preoccupation in post-Independence Mozambique. Quantities marketed through official channels have with only few exceptions remained far below the level attained in 1976. They vary considerably among crops and from year to year and decreases are more pronounced for industrial than for food crops. The general trend was favourable from 1977 to 1981 but negative from 1982 to 1986. From 1986 through 1988 some improvement appears to have taken place, but 1988 quantities were still – with the exception of rice – below 1981 quantities.

Table 5 clearly illustrates the cycles in real producer prices referred to in section 3.2 and shows that the five year trends in real producer prices and production marketed through official channels are correlated. The estimated price elasticities are generally positive and in many cases well above one.

Table 4.
AGRICULTURAL MARKETING THROUGH OFFICIAL CHANNELS
(thousand tons)

	1976	*1977*	*1978*	*1979*	*1980*	*1981*	*1982*	*1983*	*1984*	*1985*	*1986*	*1987*	*1988*
Maize	90.0	34.0	70.0	66.0	65.0	78.3	86.2	55.8	82.6	58.6	21.5	27.3	44.6
Beans	14.0	14.0	10.1	13.0	9.6	14.9	6.9	4.6	3.6	3.6	2.8	9.2	7.1
Rice	75.0	60.0	44.0	56.3	42.8	28.9	41.5	17.3	19.6	17.9	19.0	31.6	31.7
Groundnut	n/a	n/a	n/a	n/a	6.2	5.0	1.4	0.7	1.8	2.0	0.9	2.1	1.8
Cashew	120.0	102.0	90.0	62.6	87.6	92.0	56.6	16.8	25.2	29.1	40.2	37.5	43.6
Sunflower	7.0	10.0	7.0	4.8	11.8	12.1	10.8	7.2	5.0	5.4	1.0	1.1	1.0
Cotton	36.8	52.0	72.4	36.8	64.9	73.7	60.7	24.7	19.7	5.7	10.8	28.2	19.0
Copra	72.0	48.0	60.0	51.0	64.1	54.4	38.7	30.2	24.8	23.9	28.4	25.5	22.8

Source: Agricom and Ministry of Agriculture.

Table 5.
CHANGES IN REAL PRICES AND AGRICULTURAL MARKETING

		Percent Change[1]		
	Periods	*Real Prices*	*Marketing*	*Supply Elasticity*[2]
Maize	1977-81	4.1	19.7	4.8
	1982-86	-8.1	-30.0	3.7
	1986-88	5.6	17.5	3.1
Beans	1977-81	8.6	1.6	0.2
	1982-86	-15.7	-21.1	1.3
	1986-88	11.5	21.7	1.9
Rice	1977-81	-1.4	-17.5	4.0
	1982-86	-15.2	-18.6	12.5
	1986-88	4.0	1.2	3.1
Groundnuts	1977-81	6.1	n/a	n/a
	1982-86	-19.2	-10.9	0.6
	1986-88	15.3	16.7	1.1
Cashew	1977-81	7.4	-2.6	-0.3
	1982-86	-10.1	-8.5	0.8
	1986-88	22.5	2.0	0.1
Sunflower	1977-81	-1.4	4.8	-3.4
	1982-86	-17.7	-41.5	2.3
	1986-88	5.6	2.3	0.0
Cotton	1977-81	11.5	8.6	0.7
	1982-86	-17.4	-34.9	2.0
	1986-88	12.0	13.8	1.1
Copra	1977-81	0.2	3.1	19.1
	1982-86	-23.2	-7.7	0.3
	1986-88	7.7	-5.5	-0.7

Source: Tables 2 and 4.

Notes: 1 Percent changes have been calculated by dividing a change in price (see Table 2) or quantity (see Table 4) by the average of the respective values in the first and last year of a period.

2 The supply elasticity has been calculated using standard definitions relating both price and quantity changes to the averages of their values in the first and last year of a period.

Farmers certainly seem responsive to changing real prices, but a number of critical caveats are necessary.

No reliable data are available on developments in *total* agricultural output as opposed to output marketed through official channels. While qualitative observation and preliminary Ministry of Agriculture calculations confirm that crop production collapsed after 1981-82 little can therefore be said with any degree of precision on the effect of real producer prices on total production. This is illustrated by the fact that the food crop elasticities in Table 5 are generally higher than those of industrial crops which is contrary to what one might expect *a priori*.

The major share of food crops is grown to satisfy subsistence needs and only a minor share will normally be directly affected by official prices. Industrial crops are (with the possible exception of cashew) mainly grown for cash and sold principally through official channels. They will consequently tend to be relatively more responsive to official prices. The above 'anomaly' no doubt reflects that food crop sales through official channels are more price responsive than total food crop production due to peasants' 'balancing'[18] their sales between official and parallel markets, but this confirms that caution is necessary when the data in Table 5 are interpreted.

Furthermore, the correlation observed between prices and marketed quantities does not separate out the effects of other factors which include *inter alia* war, weather and a deteriorating infrastructure network. A number of studies (see for example Bond, 1983, and Cleaver, 1985) have found that 'other factors' are in general much more important than prices in Sub-Saharan Africa, and this conclusion is likely to hold for Mozambique as well as the estimates given in Table 5 are sensitive to the choice of periods and the introduction of lags.[19] In addition, some inter crop substitution between maize and cotton also seems to have occurred.[20] Finally, data quality is in general poor both as regards marketed quantities and producer prices. There is for example limited positive assurance that official prices were indeed received by peasants although the general impression is that this was so until recently.

It is for all these reasons difficult to establish a straight forward causal relationship between real producer prices and total production, and nothing can be concluded about how different groups of farmers reacted to producer prices.[21] Nevertheless, the most sensible conclusion is that the aggregate data analysed here tend to support the view held by Mackintosh (1988) that supply elasticities are positive in Mozambique. It is in other words likely that producer prices contributed to economic progress (1977-81 and 1986-88) as well as to decline (1982-86), but supply elasticities are certainly much lower than Table 5 indicates.

Distribution of Sales Values

Producer prices have implications for producer incentives, but they also affect the distribution of the total sales value of officially marketed production between farmers and other economic agents (including processors, traders and Government). Table 6 below provides official consumer prices for food crops and unit export values for industrial crops (except sunflower where no exports took place). Table 7 shows how the producer shares of total sales values developed from 1976-88.

Table 6 illustrates a remarkable stability in official food prices (particularly in Maputo and Beira where maize and rice prices were kept at the same nominal values for five to six years). This did not however reduce producer shares until 1986. On the contrary, producer shares for maize and beans even increased after 1980 as compared to the early post-Independence years. In other words, Government did not increase its taxation of food crop producers in this period. The increasing marketing costs due to the war were financed through subsidizing Agricom and the low consumer prices were in large measure supported because of the availability of cereal food aid since Government finances were already at that stage under considerable stress.[22] Changes may be underway in connection with the ERP but they have not yet become apparent – and if any preliminary conclusion should be drawn on the basis of Table 7 it is that producer shares have tended to decrease during the 1986-88 period.

As regards industrial crops producer shares have shown much greater variability due to fluctuations in the export prices obtained in international markets but no clear trends can be identified. Anyhow it is transparent that Government has been taxing cashew in particular. Processing and marketing costs amount to much less than the difference observed between official producer prices and unit export values. It might be tempting to conclude that since producer shares did not follow any particular trend the export tax remained more or less constant. This is possibly what the Government did as the official policy was to promote exports, but since the metical was becoming increasingly overvalued during the 1982-86 period Government was effectively increasing its share of unit export values. Farmers were therefore not paid a constant share of 'real' export incomes.

The increase in the relative size of the export tax is difficult to estimate with any certainty but was no doubt significant as the equilibrium exchange rate in 1986 was running into hundreds of meticais per dollar as compared with an official rate of only 40 meticais per dollar. Yet, the increase in the absolute 'hidden' transfer of resources to Government was in reality much more limited as agricultural marketing of industrial crops dropped significantly.

Table 6.

OFFICIAL CONSUMER PRICES[1] AND UNIT EXPORT VALUES[2]

(escudos, meticais/kg)

	1976	*1977*	*1978*	*1979*	*1980*	*1981*	*1982*	*1983*	*1984*	*1985*	*1986*	*1987*	*1988*
Maize Maputo/Beira	4.83	5.00	5.00	5.00	7.00	7.00	9.00	9.00	9.00	9.00	9.00	18.0	112.5
Other places	4.83	5.00	5.00	5.00	7.00	7.00	9.00	9.00	9.00	17.5	17.5	30.0	112.5
Beans	n/a	n/a	n/a	18.0	27.5	27.5	27.5	27.5	27.5	34.5	34.5	195.0	260.0
Rice[3] Maputo/Beira	11.5	11.5	11.5	11.5	11.5	11.5	13.5	13.5	13.5	13.5	13.5	27.0	271.0
Other places	11.5	11.5	11.5	11.5	11.5	11.5	13.5	13.5	13.5	40.0	40.0	70.0	271.0
Groundnut	12.5	13.5	13.5	18.0	20.0	24.5	26.5	26.5	26.5	30.5	30.5	195.0	260.0
Cashew nuts	49.7	86.3	78.1	84.5	134.7	154.9	98.6	111.6	158.5	160.9	218.0	1499.7	n/a
Cotton fibre	33.0	45.8	34.0	47.3	46.8	58.7	47.7	51.8	57.8	49.1	27.7	514.2	n/a
Copra	5.2	9.2	12.1	20.0	15.3	14.2	9.1	14.5	18.8	17.3	7.2	57.4	n/a

Source: Ministry of Internal Commerce and National Planning Commission.

Notes: 1 In cases where prices are regionally differentiated prices in southern Mozambique are indicated.

2 Unit values have been calculated dividing total export values with export quantities.

3 Husked rice.

Table 7.
PRODUCER SHARES OF TOTAL SALES VALUES[1]
(percent)

	1976	*1977*	*1978*	*1979*	*1980*	*1981*	*1982*	*1983*	*1984*	*1985*	*1986*	*1987*	*1988*
Maize[2]	52	64	64	64	57	57	67	67	67	74	74	133[3]	58
Beans	n/a	n/a	n/a	61	55	55	55	55	55	68	68	51	58
Rice[2]	43	54	54	54	54	54	74	74	74	40	40	69	28[3]
Groundnut	68	74	74	56	50	55	57	57	57	66	66	51	58
Cashew	7	4	4	4	4	3	5	4	6	6	5	4	n/a
Cotton	20	14	19	14	24	19	23	24	22	33	58	13	n/a
Copra	62	51	40	24	33	35	55	34	30	32	76	31	n/a

Source: *Tables 2 and 6.*

Notes: 1 Shares for different crops are not immediately comparable as processing costs differ.
2 Share of consumer price outside Maputo/Beira.
3 These figures are obviously not representative and have not been considered in what follows. Differences in timing of the very frequent changes in consumer and producer prices do occur in the ERP process where significant devaluations have taken place several times a year.

Income Effects

After a period of uncontrolled increases in wages after Independence Government froze them in 1978. From 1980 nominal wages were fixed by the National Commission for Salaries and Prices and increases were kept modest. The average wage cannot be estimated on an annual basis due to the inadequacy of data on the total number of wage earners, but using available data from various sources the pattern shown in Tables 8 and 9 emerges.

Table 8.
EMPLOYMENT AND WAGES

	1980	*1986*	*1987*	*1988*
Wage bill (10^9 Mt.)	30.9	42.3	92.2	172.5
No. of wageearners (000)[1]	896	597	519	500
Av. monthly salary (000 Mt.)	2.9	5.9	14.8	28.8[2]
Min. monthly wage (000 Mt.)[3]	2.7	3.5	7.5	17.0

Source: National Planning Commission and Ministry of Labour and Salaries.

Notes: 1 The 1980 figure is from the Population Census (see DNE, 1980), whereas the 1988 figure is from the Ministry of Labour and Salaries. The 1986 and 1987 figures have been calculated from the total wage bill and average wage estimated by the National Planning Commission.

2 A slightly lower monthly wage can be calculated from data on total wage bill and average monthly salaries, but would make the employment figure inconsistent with both the overall trend and the 1988 employment figure.

3 The minimum wage used here is for the category non-agricultural workers ('operarios'), which is fairly representative for other groups as well. The minimum wage indicated is the year-end level.

The above wage/price comparison reveals that food crop growers have on the whole *improved* their domestic terms of trade sharply vis-a-vis urban wage earners during the 1980s. Both the average and the minimum real wages dropped much more than real producer prices for maize, rice and groundnuts from 1980 to 1988. Bean growers experienced the same drop (31 per cent) as average wage earners but did much better than minimum wage earners.[23] This general trend is partly a result of the ERP which has increased real producer prices from 1986 to 1988 relatively more than wages (with the exception of rice). However, even before the ERP maize and rice growers were doing better

than wage earners. Bean and groundnut growers were doing relatively better than minimum wage earners in this period but slightly worse than average wage earners.

Growers of industrial crops have not in general done as well as food crop growers. Only cashew growers improved their purchasing power from 1980 to 1988 as compared to wage earners. Sunflower and cotton growers did better than minimum wage earners but worse than average wage earners and copra growers did even worse than minimum wage earners. However, the ERP has clearly benefitted growers of industrial crops relatively more than wage

Table 9.
REAL WAGES AND PRODUCER PRICES

	Indices (1980 = 100)				*Percent change*		
	1980	*1986*	*1987*	*1988*	*80-86*	*86-88*	*80-88*
Av. monthly real wage[1]	100	57	54	69	-43	22	-31
Min. monthly real wage[1]	100	36	29	44	-64	22	-56
Real producer prices:[2]							
Maize	100	89	103	113	-11	26	13
Beans	100	43	69	69	-57	61	-31
Rice	100	71	80	84	-29	18	-16
Groundnuts	100	55	104	104	-45	89	4
Cashew	100	55	124	145	-45	165	45
Sunflower	100	49	61	61	-51	25	-39
Cotton	100	40	61	66	-60	64	-34
Copra	100	31	37	41	-69	36	-59

Source: Tables 1, 3 and 8.
Notes: 1 Nominal wages from Table 8 deflated by using the CPI in Table 1.
2 Recalculated from Table 3 so 1980 becomes the base year.

earners and also more than food crop growers as reflected by the relative changes from 1986 to 1988 in Table 9.

Living standards fell in both rural and urban areas after 1981 because of the general economic collapse, but urban people were not given preferential treatment in relative income distribution terms – on the contrary. This observation is reinforced if account is taken of the fact that food crop growers sold part of their production at significantly higher parallel market prices contributing to increased rural incomes. Furthermore, cumulative consumer price increases in Maputo have probably been higher than overall price increases although little concrete data is available on relative rates of inflation. Adjustments should also be made for relative rural/urban differences in access to consumer goods. Lack of consumer goods was no doubt a serious disincentive to production, but it is not possible on the basis of existing information to conclude that the availability of consumer goods was significantly better in urban than in rural areas. Finally, under more peaceful circumstances rural people would definitely have been in a somewhat better position to maintain their subsistence standard of living but firm conclusions in this regard are also impossible to draw in Mozambique due to the disruption caused by the war.

A final point which comes out in Table 9 is that the difference between the poor and the not-so-poor may have widened significantly. Minimum real wages fell by 56 per cent from 1980 to 1988, which is almost double the drop for average wage earners and in stark contrast to the real price increases for maize, groundnuts and cashew. There is in addition a lot of qualitative evidence that the economic crisis has been a potent vehicle for social and regional differentiation within the rural sector.[24] Private trade has certainly benefitted the most in the unstable war-like conditions and the more vulnerable among the peasants have had their productive capacity much more severely eroded than the relatively better-off farmers. These have had easier access to inputs, basic tools etc. as well as consumer goods and have therefore better resisted the crisis.

4 Government Intervention in Price and Marketing Policy

Governments all over the World have found it impossible to avoid intervening in agricultural prices through a variety of direct and indirect measures to achieve a broad range of often conflicting policy objectives.[25] Mozambique has as briefly outlined in section 2 been no exception to this general practice, but stated objectives were not achieved as originally expected.[26] It may therefore appear tempting to follow suggestions to liberalize outright, but the underlying analytical framework and basic assumptions for such proposals are in general inappropriate in

Mozambique.[27] Furthermore, the ERP is not (see Frelimo Party, 1989) pursued in order to diminish central Government control over the economy or because the longer term objectives of socio-economic transformation and development have changed. It is therefore pertinent to reflect on some of the major types of Government interventions undertaken and proposed in the Mozambican markets and the criteria for determining what the 'right' level of administered prices should be.[28]

Types of Government Intervention

The political and administrative premium on keeping producer and consumer prices stable in a context such as that of Mozambique in the late 1970s was powerful and producer prices do not stand out as a constraining factor in this period. Nevertheless, setting prices at every level of the marketing chain and relying extensively on public procurement of food and industrial crops at the retail level is inherently complex. Stability is achieved at a cost as it implies inflexibility and lack of adaptation to new conditions and economic possibilities. Consequently, this approach became increasingly inappropriate in the inflationary environment that developed after 1981 when local production collapsed and import prices increased.

Mozambique did not have the high level of administrative capacity required for an effective and flexible operation of the system and when frequent and rapid price changes became necessary they were not undertaken. Government experienced considerable difficulty in monitoring actual developments and in obtaining the up-to-date and detailed information on the operation of markets which is indispensable for administering prices centrally. There was no effective way of ensuring that fixed prices were in fact adhered to and official producer prices for food crops became in practice minimum floor prices which farmers would consider only in case sales at higher parallel market prices was not feasible or if access to consumer goods was conditional on crop sales. For industrial crops fixed producer prices had undesirable consequences for incentives to market high quality produce as for example in the case of cashew where the abandoning of the quality grading system led farmers to sell poorer quality nuts for processing and keep better quality nuts for consumption.

The use of uniform prices at national level applied to producer and food retail prices as well as prices of other consumer goods was originally introduced in order to further the integration of the distorted pre-Independence economy and because it was felt that no region or group of farmers or consumers should be 'penalized' due to location. This measure was in the beginning rather successful from the point of view of Frelimo's nationbuilding project. However, also uniform prices carry an economic cost

as they take no account of relative transport costs. The production of bulky items in locations far from market outlets is incentivated, but the extra transport costs have eventually to be borne by someone. Furthermore, with both producer prices and marketing margins fixed private traders concentrated their business in more lucrative areas close to markets leaving Agricom with the costly trading in remote locations. This undermined Agricom's competitiveness and contributed to large deficits which were covered through Government subsidies.

It is for the above reasons unfortunate that price policy formulation was isolated from the macroeconomic policies pursued in general in Mozambique from 1981.[29] Government's budget policy affected the balance between supply and demand in the economy and therefore the framework within which price policy measures operated. Economic disequilibria provoked the development of parallel markets as prices were kept stable and the subsequent inability to collect taxes and procure needed food crops undermined the effectiveness with which the Government could direct the economy.

Price setting can be an effective measure for intervening in the economy, especially if geographically differentiated, but it is impossible under present circumstances in Mozambique to set a large number of prices at national level without creating a series of anomalies. Intervening in the price formation of a smaller number of strategically important crops would be much more effective. In deciding on how to intervene and for which crops a number of considerations will evidently have to be taken into account but in this process it is crucial to recognize the role official prices play in reality. Furthermore, not only the existing administrative and analytical capacity but also the structure of production and marketing is intimately linked to the possibilities of the Government to implement its price policy.

It is for these reasons logical that fruit and vegetable prices were liberalized already in 1985. The production is undertaken in a large number of small fields around the major consumption centres. The products are easily destroyed and quick distribution is therefore essential. The role of a large number of individual sellers and traders is important and create a relatively high degree of competition. Seasonal fluctuations in prices are difficult to avoid and it is finally very complex to intervene without creating parallel markets etc. The experience with vegetable price liberalization has been rather successful (see Francisco et al., 1987). It has however also underlined the importance of accompanying structural measures, and due to the particularities of fruits and vegetables this experience is not immediately relevant for other crops.

Nevertheless, there is probably little to be gained from intervening extensively in producer prices for food crops such as cassava, beans,

groundnut, sorghum, potato and wheat considering the low levels of marketing of these crops in recent years. Prices of cassava and potato have therefore been liberalized but Government has found that a system of minimum prices should be introduced for beans, sorghum and groundnut in order to increase production and protect farmers against traders with monopsonistic power. The overall effect of these decisions is increased flexibility. Government's administrative burden is diminished and the efficiency losses caused by pan-territorial pricing are minimized. Yet, the overall success of the new system will depend upon good judgement of the level of minimum prices. Furthermore, Agricom must be able to act effectively as a buyer of last resort and stockholder whenever needed. For this up-to-date market information and adequate funds for purchase as well as satisfactory storage and transport capacity is indispensable.

It is difficult to see how Government could avoid some kind of intervention in maize and rice prices. Mozambique continues to receive large quantities of food aid. This aid is of basic importance due to the emergency situation of the country and because of the acute lack of foreign exchange. Nevertheless, food aid distributed free in rural areas may depress food crop prices and hence act as a production disincentive. Furthermore, maize and rice are strategic urban foods of which the Government simply has to assure a minimum supply under normal circumstances as well as during emergencies such as war or crop failure caused by weather conditions. Government has therefore decided to continue fixing producer prices for these crops in all phases of the marketing process, although greater flexibility could probably be achieved through minimum prices without losing market control. In addition, the practice of fixing prices at all levels should be avoided. It would be sufficient to set for example producer and consumer prices taking into account the need for adequate marketing margins. Unless this is done private traders will not pay farmers even the minimum prices as evidenced in Adam and Cruz e Silva (1989).

Increased flexibility is also underway for a number of industrial crops, which have as mentioned characteristics which differ from those of food crops. It has in fact never been relevant to set producer prices for sugar, tea and sisal. The whole production process is carried out by agroindustrial complexes. The only output price which can affect profitability is therefore the final consumer or export price. As regards crops such as cotton, cashew, copra and sunflower which are produced by smallholders it has been considered to liberalize producer prices.[10] However, this might imply unacceptable fluctuations due to the variability of export prices, and local processors would in some cases be able to reap monopsonistic profits although it is by no means clear that they would do so at present due to the low

rate of utilization of processing capacity. Government is therefore introducing a system of minimum producer prices for these crops which is likely to affect incentives to market high quality produce favourably as 'producer price ceilings' will no longer exist. Yet, it remains essential that effective competition is maintained in commercial relations between traders and peasants on the one side and processors and traders on the other.

One of the more significant indirect ways of intervening in agricultural markets is through the exchange rate policy which has important implications for the income of export crop producers and the cost of imported goods and inputs. Mozambique maintained an inflexible exchange rate until 1987 although the metical was becoming increasingly overvalued. Real export taxes were therefore expanded significantly and contributed to the unfavourable producer price trends for the industrial crops experienced after 1981. This 'bias' was contrary to the declared policy of promoting exports and could have been avoided if a more realistic exchange rate had been used in price setting. There are therefore good reasons for the devaluations in course, but they will not be effective without a series of complementary interventions aimed at limiting inflation and increasing production.

Parallel with the changes in policy measures related to agricultural producer prices Government is also liberalizing or significantly increasing a series of consumer prices. Fixed prices were previously pursued in order to check price rises, but Government had little capacity to enforce the large number of maximum prices set in the difficult and unstable economic environment it has so far encountered. Nevertheless, Government will not give up attempts to set the prices of basic consumer items including maize, maize meal, wheat flour, bread, rice, beans, sorghum, sugar and edible oil.[31] These vital foods will continue for some time to be in very scarce supply and given the inelastic demand for food among even higher income earners outright price liberalization would lead to price levels totally out of reach of poorer households. Food rationing systems in major cities will remain in force for the same reason.

The war provides as mentioned in section 3 huge possibilities for speculation by private traders, but private trade is indispensable as the Government cannot assume all trading responsibilities and marketing cooperatives are in an embryonic stage only. Anyhow, Agricom's role must also be strengthened as it is the only agency which can try to squeeze margins and keep trading going in regions where private trade will not operate.[32]

Criteria for Price Setting

In countries where systematic work in relation to producer prices has been carried out the main formal criteria used for determining the 'right' level

of producer prices have been costs of production, the establishment of producer prices derived from desirable consumer prices and projected international prices (see FAO, 1984)[33]

The cost of production criterion is probably the most widely used criterion for setting prices. In the case of Mozambique the price proposals prepared by the Ministry of Agriculture have not however been based on actual costs but on assumed technical norms at mechanized state farms and imported inputs costed at the official exchange rate. Estimated prices for the family sector have been derived from state farm data. A big margin of error is obviously introduced in this way as production conditions and technologies are fundamentally different. There is therefore an urgent need to develop appropriate crop models for different sectors and regions of the country.

The basic problem of the cost of production criterion is that the producer does not receive through the price a signal of the urgency and importance of the demand – a signal which could imply that the level or composition of the production would change. On the other hand, the advantage is that prices based on costs of production provides a guarantee for the producer against significant price drops. Under normal conditions costs are covered and in case of productivity increases possibilities for greater profits exist. For the planners it is a criterion which is easy to use, and there is always a certain flexibility given that there may be various interpretations of the cost level. Cost of production estimates will therefore continue as a criterion in price setting practices in Mozambique, but costs cannot per se provide a rational economic basis for what the 'right' price should be.

The establishment of producer prices based on desirable consumer prices reflect the interests of the consumer and this criterion has been present in the price setting in Mozambique as well as in other countries of Sub-Saharan Africa. The danger of relying exclusively on this criterion is that the inverse relationship (in the absence of subsidies) with the producer price and the marketing and profit margins is important. There is a basic conflict between the need to have high producer prices which may incentivate production and the need for low prices of consumption. This conflict can be 'hidden' behind a system of consumer and input subsidies for some time as it happened in Mozambique during the first decade after Independence, but if production does not recover and start growing large scale subsidies will eventually have undesirable macroeconomic consequences, overstretching either the Government budget or the balance of payment. Yet consumers' needs cannot be ignored and the substantial increases in official food prices that have occurred since 1987 has lead to serious concern about the nutritional status of low-income consumers.

Linking domestic to international prices is a criterion which the Bretton

Woods Agencies have insisted that Mozambique should use. The justification is that international prices offer a measure of opportunity costs of producing or consuming various commodities and that if prices of traded crops diverge too much from world price trends potential benefits from trade will be foregone. One of the basic problems of this criterion is that international prices fluctuate widely and stable prices announced before planting are required if producer prices are to have any impact on production. A rigid application of international prices is therefore meaningless.

Furthermore, the international market is a residual market which does not at any given moment necessarily reflect long term trends. In addition, subsidies in the industrialized countries have created a situation in which international prices do not reflect in fact real opportunity costs. This last point is particularly important for a country such as Mozambique where selfsufficiency in food is a strategic objective. Finally, existing methodologies and data for projecting future border prices are far from satisfactory. It is not at all clear which exchange rate should be used in the Mozambican context and it is well known that commodity projections by the World Bank's International Markets Division leave a lot to be desired when compared with actual prices.[34] Despite of these reservations international prices are important, especially for export crops. Border price calculations should therefore be considered explicitly in domestic policy decisions as an additional but not necessarily overriding criterion.[35]

In addition to the above commonly used criteria the rural terms of trade have as already pointed out in sections 2 and 3 also been used in Mozambique. The utilization of the terms of trade reflects a preoccupation with the interests of the peasant as an individual who is producer and consumer as well. Focus is put on the need to maintain the relative profitability of agricultural production and intersectoral relations are studied. There is on the other hand no valid economic reason for maintaining relative consumer/producer prices constant over longer periods of time as this may cause undesirable distortions in the allocation of resources. Conditions of production and consumer preferences and needs change over time and rural incomes may develop differently from relative terms of trade.

No single criterion will therefore do in Mozambique. A mix of all of the above criteria is required to put future price setting on a sounder basis. However, administered prices must when decisions are taken by the National Commission for Prices and Salaries in the end be guided by political aims and judgements as well. The complexity of this subject was therefore aptly captured by Kalecki who once remarked that 'the most stupid thing to do is not to calculate; the second most stupid thing to do is to follow blindly the result of one's calculation' (quoted from Nove, 1983, p.99).

5 Conclusions

Mozambique is in severe economic crisis. The origins of this crisis are manifold, reflecting both structural and conjunctural factors. Some represent the colonial domination in all its aspects, others are a consequence of Mozambique's geopolitical situation in Southern Africa, and yet others are of a more internal policy oriented nature. Reforms have been initiated within the framework of a World Bank/IMF supported stabilization and structural adjustment programme in which particular significance is attributed to the role of agricultural prices as an ameliorative measure.

The premium on keeping prices stable in post-Independence Mozambique was considerable. The expansion of the pre-Independence centralized price setting system was in accordance with both political preferences and the chosen development strategy. However, the management system became too ambitious and rigid. The administrative and analytical capacity was limited and the shortcomings of the system became important in the inflationary context which evolved after 1981. It is therefore unfortunate that price policy formulation was isolated from the macroeconomic policies pursued in general until the mid-1980s. Yet, there is now widespread agreement that increased flexibility and more careful policy analysis is desirable.

Liberalization of some producer prices (fruits, vegetables, tea, sugar and sisal) and the planned introduction of minimum producer prices for a range of food and industrial crops are sensible measures to take. Producer prices of beans, sorghum and groundnut could possibly be even further liberalized but intervention is required for cotton. While Government intervention in the price setting for maize and rice cannot be avoided it is questionable that mandatory prices continue to be set at all stages of the marketing chain. Minimum producer prices would be sufficient to retain market control. Furthermore, initiatives to promote regional pricing should be taken as soon as feasible.

Parallel with the measures to make the price system more flexible Agricom's role must be strengthened. It is the only institution which can cut down monopsonistic practices among private traders and implement the minimum pricing system as proposed. Successful Government intervention in agricultural markets will also require better monitoring of actual prices paid, and more reliable crop models for the various production sectors and regions of the country are indispensable in order to assess production costs and farmer incentives to produce and market.

This study supports that supply elasticities are positive, but prices are not as influencious an element in explaining the disastrous collapse in agricultural production as sometimes argued. While real prices underwent undesirable

swings due to the inflexible price setting mechanism and Government's inability to undertake frequent price reviews the real terms of trade were not turned against the rural sector in any consistent manner after Independence. The real price of maize was above the 1976 level for the whole of the 1977-88 period and real producer prices were in 1981 and 1982 significantly above the 1976 level for all crops.

Producer prices dropped from 1982 to 1986 but this was due not to deliberate policy but because inflation aggravated much faster than expected. Real prices improved as a consequence of the ERP and the real prices of most crops were in 1988 higher than in 1976-77. However increases remained below 15 per cent from 1986-88 in most cases and the only really impressive change occurred in the case of cashew where the real price increased by almost 25 per cent from 1986-88. Sweeping statements about the positive impact of pricing measures under the ERP must therefore be considered with some reservation.

Analyzing developments in relative urban/rural income trends is as complex in Mozambique as in other Sub-Saharan countries. It can nevertheless be concluded that farmers were not treated unfairly vis-a-vis urban people in the period from 1981 to 1988. Living standards fell in Mozambique due to the war but farmers did better than urban wage earners. It is also clear however that food crop growers did better than export crop growers (with the exception of cashew) reflecting the inadequate linkage between producer prices for export crops and the exchange rate. The ongoing devaluations may help eliminate this problem but this assumes that domestic inflation can be kept under control.

Relative developments in prices and incomes over time and among different crops are important to policy-makers and give valuable insights into the general framework for price setting and inflation. Such data cannot however on their own provide a rational economic basis for establishing what the 'right prices' are. Mozambique should therefore in order to avoid 'getting prices too wrong' strengthen the analytical basis for setting prices. This includes *inter alia* the use of border prices as an additional criterion in the price setting process, in particular for export crops. However, international prices must be employed in a flexible and undogmatic manner in view of its practical and methodological deficiencies. Finally, Government may for perfectly valid reasons wish to keep domestic prices different from the 'right' international prices.

The Mozambican Government is faced with the collosal dual task of having to deal with an economic crisis and finance a war effort. 'Better prices' in the sense of removing distortions and improving the allocation of resources is important and may lead to increased total national production supporting economic recovery. It cannot be expected however that simply increasing

agricultural prices relative to other prices will have positive overall effects. The capacity of a majority of the rural sector to respond to price incentives has been severely undermined and must be rebuilt before sustainable growth is feasible. If Government relies exclusively on the price mechanism for economic recovery higher prices will simply end up in the hands of intermediaries or the already better-off farmers.

NOTES

1. See for example FAO (1987), Fones-Sundell (1987) and Streeten (1987).
2. The modifications in economic policy in Mozambique from 1983 onwards, including the area of agricultural price policy, were endorsed by the July 1989 Fifth Congress of Frelimo. See for example Frelimo (1989). The analysis in this article is based on information covering the period up to the end of 1988.
3. Main published references are the various studies by Mackintosh (1985, 1987 and 1988), a study by Binkert (1983) and the works by CEA (1980, 1981, and 1982). For a review of unpublished material Tickner (1989a) is useful.
4. The more important legislation was contained in the law by decree number 41204 of 24 July 1957 which was superseded by the legal diploma number 6 of 1973.
5. Decree number 10 of 1982 sets out in detail the principles for state intervention in the price formation system and lists the 45 products whose prices were fixed at central level until 1987. Government intervenes directly in the price formation system through fixed price setting, conditioning of prices set by enterprises and by authorizing free price formation. For prices on the conditioned list norms were established on the basis of cost calculations and maximum profit and marketing margins.
6. The prices of vegetables, fruits, onions, sweet potato, fresh cassava, maize on the cob, ducks, rabbits and turkeys were liberalized, and provincial governments were delegated responsibility for price setting for potato, goat, sheep and fresh fish (within certain maximum and minimum limits).
7. The terms of trade were assessed through comparisons of individual nominal producer prices with the official cost of the various items sold to peasant farmers by Agricom. These included brown sugar, bicycles, canvas, trousers, blankets, hoes, cutlasses, machettes, axes, edible oil,

paraffin, batteries, radios, soap, salt and cloth. Calculations were aimed at clarifying how much of a given crop would be necessary to buy one unit of one of Agricom's consumer items (or an arbitrarily composed basket). Comparing such quantities over time gives an impression of the development in offical terms of trade for the specific consumer items and the crop in question. Yet, these comparisons may be of limited value when parallel markets develop as purchases of consumer items in unofficial parallel markets are not considered. Furthermore, the above procedure takes no account of the relative importance of the various crops and the actual composition of the consumer basket, which may change over time.

8. By way of illustration it can (based on various published and unpublished sources) be noted that the Gross Social Product (GSP) in 1985 had declined for the fourth consecutive year and that the per capita level was at less than 60 per cent of the level attained in 1981. Domestic food production declined precipitously and – based on tentative estimates – per capita food consumption may have fallen by as much as 40 per cent from 1979 to 1986. Food aid expanded rapidly reaching a level of around 500,000 tons a year and the share of domestic production of maize and rice in total distribution of these two cereals was in 1986 at only respectively 14 and 17 per cent. Imports contracted sharply and in 1985-86 were at less than two-thirds of the 1980 level in recurrent prices and industries operated at 20-30 per cent of capacity. Total exports were in 1985 at less than 30 per cent of the 1980 figures, and the debt service ratio reached 275 per cent in 1986. By the end of that year Mozambique had a total outstanding debt of US dollar 3.4 billion as compared to 750 million in the early 1980s. The government budget deteriorated from a small surplus in 1980 to a deficit of 48 per cent in 1986 with defence accounting for 30 per cent of total outlays. Capital expenditure remained stagnant in monetary terms from 1981 to 1986, and was almost totally dependent upon foreign grants and loans. Domestic credit outstanding almost trippled over the 1981-86 period, with 25 per cent due to government's appearance as borrower from the banking system and the remaining 75 per cent due to the open-ended financing of enterprise deficits.

9. For further details see for example Frelimo (1989) and RPM (1987). Measures have included exchange rate devaluations (from a level of 40 Mt per US dollar in 1986 to a level of 800Mt per dollar in September 1989) and reforms in the foreign exchange allocation system. Also trade, price, government budget and credit policies have been modified.

In addition policy and institutional changes have been initiated in key sectors. While fairly typial in design the ERP is somewhat more expansionary in nature than most IMF/World Bank supported programmes. An overall budget limit is no longer imposed as in 1987, and limits on foreign financed investment and emergency programmes have not been established.

10. The Prime Minister (Machungo, 1987) noted: 'The price policy ... should drain the actual flow of exaggerated and illicit profits to the pockets of black marketeers. For this the state will continue to use administrative mechanisms, but it is above all by economic means that the struggle against black markets should be fought' (my translation). Previously slogans like 'death over the black marketeers' were common.

11. In 1987 producer prices of wheat, tea, eggs, bran, fertilizers and other industrial products were moved from the fixed price list to conditioned prices. From early 1988 the producer prices of potato, goats, lamb, dried cassava, chicken and eggs were totally freed and pesticides are from then onwards priced by producing companies based on their production costs. Later in 1988 producer prices of sesame, fish, eggs, chicken and dried cassava were liberalized. Minimum producer prices to be introduced in 1989 include beans, sorghum, copra, sunflower, mafurra, groundnut, cashew, cotton and meat products, but producer prices of maize and rice will continue to be fixed at all levels. In addition to maize and rice consumer prices of maize meal, wheat flour, bread, beans, sorghum, sugar and edible oil will also continue to be fixed centrally, but official prices will be adjusted regularly to reflect exchange rate movements.

12. Possibilities may of course exist for smuggling to neighbouring countries, but this does not appear to have been a problem in Mozambique for these crops. It is known however that significant quantities of food crops were smuggled to for example Malawi.

13. The 'real producer prices' used here therefore relate official nominal producer prices with inflation in *both* official *and* parallel food and other consumer goods markets (not just inflation in official consumer prices). This comparison does not however take account of the higher producer prices farmers may obtain by selling their products in parallel markets (see pages 185-190).

14. These problems *inter alia* include that the size of the parallel final goods markets cannot be known with certainty due to their illegal nature and a series of difficulties related to coverage and regularity of data collection.

The CPI, which has so far been based on annual surveys, also tends to understate average producer prices as surveys have been carried out in August where farm prices are at seasonal lows. It must furthermore be stressed that a comprehensive process of change in relative prices is taking place in Mozambique including a substantial change in the composition of imports as a consequence of exchange rate adjustments. A single measure of 'inflation' cannot therefore suffice for all purposes.

15. This is in contrast with the approach of for example some World Bank staff who have focused on Government's alledged 'bias' against farmers. Their views are, however, based upon analyses which only consider developments from 1980. Tables 2 and 3 clearly demonstrate that 1980 is not a representative year as it is by far the 'best' in the whole post-Independence period for practically all the crops reviewed here. Similarly, considering developments with 1977 as base year (see Mackintosh, 1988) does not take account of the positive measures taken shortly after Independence.

16. See pages 191-194 for further comments on this point.

17. No correlation could be found between nominal producer prices and agricultural marketing, demonstrating that farmers react to real not nominal prices.

18. This formulation is from Mackintosh (1988). The greater availability of a range of consumer goods after the initiation of the ERP also seems to have a separate effect, in particular as there is some evidence that farmers have not more recently been paid the higher official producer prices (see Adam and Cruz e Silva, 1989).

19. The introduction of for example a one-year lag between prices and quantities marketed does not alter the general impression of positive supply elasticities, but some 'anomalies' such as a negative supply elasticity for maize in the 1982-86 period appear. This particular 'anomaly' is readily explained by the importance of the war as a cause for production declines, but underlines that caution is required in interpreting the data in Table 5. The same is illustrated by the increase in the variability of elasticities which results if price and quantity changes are related to the first year of a chosen period rather than their average changes over a chosen period.

20. Evidence on cross-elasticities is however limited in this study. Only few of the eight crops analyzed are potential substitutes, intercropping is extensive and producer prices were often increased in big 'jumps' at the

same time. It is nevertheless likely that the clearly more favourable developments in the maize price has made some peasants shift resources to this crop away from cotton. Maize is not a substitute for the other crops included here.

21. The same can be said about the change in elasticites over time (i.e., from period to period). Some supply elasticities (for example for maize) are lower in the last period which is consistent with the view that peasants' capacity to react to price incentives has been undermined due to the war (cf. pages 188-190 and section 5), but it must also be noted that the last period with increased price incentives is shorter than the previous two periods.

22. Consumer subsidies for maize meal and dehusked rice were maintained at low levels until 1985. They then increased considerably as consumer prices for maize and rice in Maputo and Beira were not increased in line with increases in other parts of the country. The subsidy for dehusked rice for example increased in Maputo in 1985 from 3 Mt/kg to 20.90 Mt/kg and for maize meal it increased from 3 Mt/kg to 8.30 Mt/kg.

23. It can furthermore be recalled that the bean price was exceptionally high in 1980 (see Table 3).

24. See for example Wuyts (1989) and Mackintosh (1986).

25. See for example FAO (1984, 1986a, 1986b and 1987) and Streeten (1987) for more detailed reviews.

26. More specifically, parallel markets developed after 1981 and real consumer prices were destabilized (i.e., the cost of living increased), production collapsed and food supplies diminished, producer incentives were undermined, agricultural exports became insignificant and food imports soared, income inequalities developed rapidly and Government revenue dwindled.

27. Cleaver (1985, p.2) has found that 'price policy remedies suggested in the literature are too stereotyped. The adaption of appropriate policy to different country circumstances is not a simple task. Political, social, environmental, and economic constraints differ between countries in Sub-Saharan Africa. Policy should therefore differ from country to country as a function of these constraints'. Mackintosh (1985, 1986, 1988) and Wuyts (1989) contain broad analyses related specifically to Mozambique and prepared from a perspective where price reforms are seen as part of a 'strategy for economic renewal, not treated in isolation', and where increased effectiveness of price policies is sought

'without abandoning the overall socialist development strategy'.

28. In what follows the analysis is not strictly limited to the eight crops analysed above, but no attempt is made to be comprehensive. Livestock and forestry products are for example not referred to.

29. There is in other words a direct relationship between the government budget and prices which go beyond the use of prices as an accounting unit or measure of value, and this is so in market as well as centrally planned economies.

30. In the particular case of cotton note should be made of the fact that it is very intensive in terms of manual labour and purchased inputs and competes directly with food crops like maize. Government intervention in the producer price of seed cotton cannot therefore be avoided. However, for cotton fibre, prices negotiated between the ginneries and the textile industry could probably be introduced without difficulty as the majority of the production is exported.

31. As regards tea and sisal which are also exported there is in fact no need to set consumer prices as fixed margins are sufficient to exercise control. Technically the same procedure could be used for sugar, but internal production costs have been very much higher than international levels.

32. This issue will not be pursued further here, but the references by Mackintosh (in particular 1985 and 1988) provide further thoughts on this topic.

33. For a more detailed review see FAO (1987).

34. Several participants in a study seminar on Structural Adjustment in Sub-Saharan Africa at IDS in August 1989 furthermore pointed out that the way in which border price calculations are carried out tend to reinforce the use of uniform prices at national level rather than promoting regional pricing.

35. While the World Bank and others have argued strongly for the use of border prices as the main criteria in Mozambique, the author was advised informally during his visit in September 1989 that the 1990 producer prices would be based not on international prices but on a 15 per cent increase of 1989 prices in order to control inflation.

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